The SMART Brain Bank for Activating English learning and Teaching Strategies

Dr. Amal Mahmoud Elmatarawy

Abstract

This study aims at activating language learning and teaching strategies through manipulating the twelve brain/mind learning principles in a classroom setting. It addresses teachers and learners of English through the design of the SMART brain bank. Results of the qualitative inquiry technique adopted indicated the importance of authentic hands-on activities in facilitating the process of developing the SMART brain bank. Data classified reflected the importance of engaging learners in their learning practices. This is facilitated through an alert and attentive well-prepared teacher who tailors his teaching practices accordingly .

مستخلص البحث :

اهتمت هذه الدراسة بتنشيط أساليب التعلم والتدريس داخل الفصل الدراسى . وقد تم ذلك بشكل فعال عند تصميم بنك المهارات الذهنى والذي تم بناؤه بمشاركة المتعلمين ومعلمهم . وقد تم تأسيس هذا البنك وفقا للأسس الإثناعشر لعمل العقل والمخ. وقد اتبعت الدراسة الأسلوب الكيفى فى تصميم الأدوات وجمع البيانات وتحليلها . وانتهت النتائج إلى أن تصميم بنك ا لمهارات قد أسهم فى تنشيط مهارات تعلم اللغة الإنجليزية والتي تم تصنيفها إلى أثنى عشر مهارة وفقا لأسس عمل العقل والمخ .

This study aims at developing a SMART bank to enhance English learning strategies as well as teaching ones. More pupils' involvement is supported through authentic hands-on activities. Considering pupils' interests, learning time opportunities, learning styles, and social ecological backgrounds is facilitated through the process of developing the SMART bank . This bank is enabled via teaching strategies manipulated during class time. This study is furthered to teachers and learners of English whose target is accelerating their teaching and learning processes.

Accordingly, this study attempts to find whether there is a need for a SMART brain bank to be developed in an English classroom setting. It also attempts the possibilities for this bank to activate English learning strategies. In addition, it investigates the possibilities for this SMART bank to enable teachers activate their teaching input and output processes in relation to the brain/mind working principles.

Problem and Rationale

The issue of quality education attainment reflects where learning and teaching should be directed. Teachers, school personnel, school directors were all, and are still competing for good

performances to meet the criteria and standards of educational quality. Striving for quality education standards has motivated most teachers of English towards professional and academic enhancement.

Considering that teaching and learning represent one side of the coin, the other side is represented by teacher and learner interactions. These interactions would presumably affect the learning products and outcomes. Within the limitations of this context, hands-on and active learning has been assured as an important strategy in the learning process. Adopting active learning and assessment strategies stand as a real problem for some teachers. This is reflected through teachers' voices as well as teachers' practices.

According to Cocking et. al.(2000: p.9) editors, " the new science does not deny that facts are important for thinking and problem solving." This justifies for the need to relate what it means to activate learning English language skills through the brain and mind working principles.

This, consequently entails capitalizing on what a learner has as a language capital. Lave and Wegner (1991:p37)" schools need to develop classroom learning to other aspects of students' lives".

Supporting core learning values are essentials. Voices of both parents and teachers claiming that pupils' learning gains are not satisfactory led to the carrying out of this study.

The issue of capitalizing on learners' skills for investment purposes stands as a real core behind the idea of a "bank ". This bank is meant to enable investing in language skills which are conceptualized as the bank capital.

Deposits , loans, savings and sharing are facilitated through the working principles of the brain and mind. Rushton and Hopwood 'use of banking terms in " world at work" helped in establishing classroom norms related to language investment and brain /mind working principles. Based on this ,the study attempts to enable language investment to resolve the dilemma of:

1- misconception and misperception of what hands-on and activelearning means,

2- feasibility of hands-on and active learning practices, and or

3- feasibility of active assessment; namely, portfolios.Exploring reasons which might hinder hands-on and active

learning practices in an English classroom setting is also addressed. Attaining the target of this study has been facilitated through adopting the qualitative research methodology, which will be clarified later in chapters three and four. In chapter five, the **SMART** brain bank is developed according to the written final report outcomes of the adopted qualitative technique.

The need for the SMART brain bank

Exploring the need for this brain bank has been facilitated through the following tasks: providing an explanation for the vision of a brain bank; and the mission of this bank in an English language teaching and learning setting, navigating the teachers of English need for this bank, and exploring teachers' perceptions of banks from an educational professional perspective.

Assumptions

It is assumed that learning practices are the outcomes of teaching practices. Based on this, teaching practices would stand as an independent variable, whereas learning practices would stand as the dependent ones. The assumption that learning a language skill relates to compatibility learning principles of brain/mind has been navigated using the qualitative technique processes

Questions

The study attempted to answer the following questions:
What is a language bank?
What is the SMART brain bank?
What are the components of the SMART brain bank?
What is meant by activating language learning-skills?
What relates language skills to brain/mind learning principles?

Hypotheses

Based on the study rationale and assumptions, hypotheses are stated as follows:

- There is a positive correlation between teaching practices and learning outcomes
- There is a positive correlation between teaching practices and learning assessments
- There is a positive correlation between learning assessments and learning outcomes.

Operational definitions of terms

Terms used in this study are defined as follows:
Teaching practices is precisely defined as the constant performance in a classroom setting.

Learning outcomes is defined as learners' gains reflected in their self-esteem, cooperation, caring for others and respecting them.

This entail helping the learner to be an active participant in the community and society in which he lives.

Language learning traits is defined as represented in producing English properly and appropriately, and in receiving English attentively and alertly.

Learning assessments is operationally defined through the gathering and collecting of scores and relevant information about the learner's participation, achievement in the language learning processes.

These are considered and defined as the references and resources the teacher uses to assess learning gains.

SMART is operationally defined as in the initials expressing something; namely, objectives, activities, **S**election techniques, assessment criteria, groups, etc…,**M**anagement of something; namely, learning time, seating, noise level, pupils' behavior, etc…, of something; namely, learning objectives, **A**ssessment learners'

skills, teaching performance, etc…,**R**eflecting on something; namely, one's action plans, pupils' attainment, choice of tasks, suitability of assessment, etc…,**T**argeting at something; namely, promoting learners' English skills, developing attentive listening, accurate pronunciation,etc…,Thus the five letters **S M A R T** refer to manipulating the working principles of the brain and mind to enable **Selecti**ng, **Managing, Assessing, Reflecting,** and **Targeting.** They meet the principle of patterning and retrieving of information when there is a need to fulfill a task or attain a goal. These five words stand not only as learning / teaching procedures, but they also refer to how awareness could facilitate sharing, investing, and capitalizing on the skills **SMART** brain bank could realize. A skill deposit and a skill loan could be activated through classroom activities and language games. A glossary of some learning and teaching strategies that would enable active learning practices would be provided as a resource for teachers.

The SMART brain bank

The SMART brain bank is operationally defined as the place where the processes of learning language skills are processed to affect activating language learning. This brain bank is defined as

the exact place where skills are acquired. It is a place and a processor that helps in language learning through brain/mind learning principles. This brain processor enables the interactive sharing of skills with others. These skills are stored in the brain, and retrieved when needed.

Bank is operationally defined as the hidden unwrapped skill and knowledge storage box; through which language skills and learning process could be exchanged and invested. This bank also allows for storing and retrieving knowledge and skills through the working principles of the brain and mind.

Limitations

This study is limited to teachers of English in basic stage schools and their pupils. The outcomes are also limited to the contributions of the teachers participating in this study. Data is collected within the limitations of learning principles and language skills; allowing for qualitative analysis.

Literature review

Based on previously related literature, the study considers three important issues: brain/mind working principles, teachers' effectiveness in a language setting, and learners' English skills. Attaining this goal, a qualitative inquiry research technique has been adopted for purposes of gathering insightful data. This technique is believed to allow for probing into the required interpersonal skills of active learning. It might also provide information for teachers of English to get more into the depth of improving their performances and become effective teachers.The SMART brain bank developed in this study is the outcome product of teachers'- learners' contributions as represented in the final report. The theoretical framework is intended to support study assumptions and variables. Brain/mind working principles provide an in-depth insight into language learning processes. Possible ways for activating learning and teaching strategies are highly focused on and explored justifying for activating the learning assessment processes of English skills via developing the **SMART**brain bank.Three issues are mainly discussed. The first is the possible ways ofactivating learning/teaching English strategies. The Second is providing an insightful understanding of how learning English skills is closely attached to brain and mind working principles. The third issue is clarifying how the SMART brain bank would enable active learning and assessment through developing the learning process.

Activating English teaching and learning strategies

According to this study, activating English learning entails engaging learners in the learning process to enable active learning performances. This is mainly based on Nottingham (2013: p.12), "learning is a process, not an outcome" Consequently, learners should be fully engaged in meaningful, enjoyable and interesting tasks. This requires the teacher to be fully aware of the learning styles of his learners.

Carin et al. (2005) provided the five phases of a five E-Model in teaching and learning science; namely, engagement, exploration, explanation, elaboration and evaluation. This 5-E model enabled authentic learning through learners' engagement.

In an English classroom setting authentic learning is due. To enable authentic learning of the four language skills, the needs, interests and background knowledge of the learners should be considered and manipulated. A Schema –oriented process would promote and enable learning maps, graphic organizers and charts.

These charts and organizers help the pupils to relate their background information and knowledge with the recent and new ones. Bing et al. (2007), stated that "all schemas stored in one's mind are one's total knowledge". The study supports manipulating previous information to create new ones. The idea is prior knowledge would make learning enjoyable, interesting and most of all relevant. Learning activities would be easily approached if the language used relates to pupils emotions and feelings. Caine et al.(2009), found that emotions are critical to patterning learning, and that emotions affect learning and is among the working principles of the brain/mind.

The schema theory as it relates to the brain and mind working principles enables the search for meaning to take place. This is because this theory emphasizes the importance of knowledge in the learning process.

Using the 5-E learning cycle

The 5 E learning cycle is a method of structuring a lesson that is based upon constructivist learning theory, schema theory, research-based best practices in pedagogy, and cognitive psychology. A schema theory framework is the starting point for structuring the cycle.

The 5-E model is a recursive cycle of distinctive cognitive stages of learning that include: engage, explore, explain, elaborate, and evaluate. The lesson often takes several days or weeks to complete.

The first stage is the "**engage**" phase. This is the introduction to the lesson that motivates or hooks the students' interest in the learning to follow. This could be handled through demonstrations, brain storming, graphic organizers mapping, or any other activity that would tap into prior knowledge and engage students in the learning process making use of prior knowledge to uncover what students know and make them think in what they would do or learn. This phase is enhanced and developed through an "**explore**"activity.This activity is designed to allow for an awareness of language learning practices. It might also provide ample opportunities for reflecting on present experiences as well as previous ones. This phase requires a hands-on task to be practiced.

Students are encouraged to work together without direct instruction from the teacher. They observe, question, and investigate the structure of the language learnt as it relates to the concepts and values developed. The "**explain**" stage encourages students to use the explain concepts and definitions in their own words. Students are asked to justify and clarify their ideas. Formal definitions, explanations, and labels are provided. This is done through such activities as discussions, chalk talks, films, etc. and can be didactic in nature.

The "**elaborate**" stage allows students to apply their new labels, definitions, explanations, and skills in new, but similar situations. It often involves experimental inquiry, investigative projects,

problem solving, and decision making. The "**evaluate**" stage assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.

Teachers frequently observe students as they apply new concepts and skills to assess students' knowledge and/or skills, looking for evidence that the students have changed their thinking or behaviors. The opportunity to allow students to assess their own learning and group-process skills is often provided. Even though the 5-E was just described in linear order, there are times when it is appropriate to loop back into the cycle before going forward. For example, several explore/explain loops may need to occur before the students have the full ability to move forward into an extend

session. Or, it may be that during the extend stage, the teacher may find students who need to revisit and be engaged in an activity. Evaluation is an ongoing process and is not generally left for the end of an activity. It is helpful to think of the 5-E as recursive and looping back on itself. It is also possible for a single E activity to have all of the other E's embedded within it. For example, an extend session may well begin with engage, followed by brief explore/explain, and be embedded with informal evaluations along the way. Carin (2005) maintained that the idea of the 5-E cycle being somewhat like a fractal with mini 5-E building upon one another to create a 5-E lesson could stand as an appropriate practical analogy supporting the 5-E idea.

The 5-E and English teaching

The KWL technique used for teaching reading, in the researcher viewpoint, is considered, another form representing the 5-E model learning teaching cycle. The "k" is made to prepare pupils and "engage" them in the learning activity. The "k" stands for the word "know". The "w" is made for pupils to "explore", "explain", and "elaborate" on the learning activity; providing details. The "w" stands for "what" to know. The "l" is the evaluation stage; it is made for pupils to "evaluate" what is learnt. Thus, the "l" stands for what learnt is "".

The KWL and the 5-E model techniques represent how a learning process is processed and focused –on. They also enable the brain/ mind working principles to be activated. Based on Caine et al.(2009) researches and previous studies twelve principles are responsible for activating the process of learning. These principles will be detailed later. They, also supports Nottingham's (2013) claim that attitudes, skills and knowledge go hand in hand.

Engaging students in an active learning process requires engaging them in an active assessment of their learning processes.

Active assessment

Active assessment entails engaging the learner in the assessment process. Portfolios assessment is as an active process of a continuous assessment paradigm with the learner as the pivot of the process. The learner is responsible for his work and for collecting it according to pre-set criteria. He/she selects the work that would best fit for meeting these criteria. This supports Efron & Ravid (2013) ideas underlying a research procedure. According to

them a research might be intended to improve practices when addressing or adopting an action research methodology.

O'Malley and Pierce (1996) differentiate portfolios in three separate categories: "Showcase portfolios," "collection portfolios" (also called "working portfolios"), and "assessment portfolios". In a showcase portfolio, students select pieces which they believe represent their best work. Collection portfolios, on the other hand, contain all the drafts and the final product of all student works. Finally, assessment portfolios require students to select works for assessment according to certain criteria given by the teacher.

These categories, however, are merely neat divisions to be manipulated for purposes of research. In practice, these categories are inseparable, more complicated, and conversely simpler combinations are also possible. In portfolios, as indicated in most of the literature, learners are always asked to choose selections from their weekly assignments. They are also asked to submit drafts and to provide reasons supporting their selections.

Reasons beyond portfolios

Portfolios are effective active assessment tool for the following reasons: they include samples of the pupil's work, not all the work done. Pupils must individually choose which pieces to include. Self-evaluation is enhanced through the selection process activated. Pupils, actively engage meta-cognitive processes which prepares their minds for feedback from their peers and their teacher (Breen & Mann, 1997). Encouraging pupils to become active is only one of the many strengths of portfolio assessment. Because portfolios contain a record of concrete examples of pupils' work done over time, they can accurately demonstrate their progress in the target language. They also provide the opportunity to reflect on their own progress and work collaboratively with peers even after the actual assessment ("grade") has been given.

They also encourage pupils to be responsible for their own progress.This would increase learners' awareness of their learning skills. Accordingly, this awareness will help in establishing the **SMART** brain bank process.

For a learner,

"Portfolio is better because it is not an exam".A comment received by one of the pupils participating in the present study. The following figure presents part of his active involvement: a cartoon showing means of transportation according

to which personal experiences were shared and expressed. Assessment of the portfolio itself can be done either holistically or analytically.

Holistic assessment: This entails giving the entire portfolio a single grade based on set criteria such as voice, grammar, structure, and so on.

Analytic assessment:

This entails giving each of these criteria a separate grade. Generally speaking, the most effective active assessment combines both methods; individual pieces included in the portfolio can be assessed analytically, while the portfolio itself receives an overall holistic grade.

Active assessment

The most important point concerning portfolio assessment is that the assessment is not just based on the quality of the product. For classes with learners of widely varying proficiency levels, setting a specific standard for assessing learning may be neither beneficial to the learner nor fair. Though it has so far been difficult to judge the reliability of portfolio assessment, portfolios appear to promote a "greater awareness of what active involvement is, and how it might be best achieved" (Hyland, 2002, p.146) Based on the above, portfolios emphasize individual progress towards goals which the learners themselves help establish.They offer a collaborative assessment, an assessment partly determined by the teacher and partly determined by the learner.

This assessment includes "not only an assessment of what the result was, but the how’s and the why’s “how a student reached the result and why the result came about" (Apple, 2004, p.88). his shift from "producing correct English rather than selecting, organizing, and presenting ideas for effective communication to a reader" (Shih, 1999, p.20) allows the teacher and the learner to evaluate progress and effort over time. That is why portfolios are perceived as active assessments.

This study, accordingly, inquired using portfolios to assess productive English skills; speaking and writing. The underlying rationale, as explained earlier, is providing ample opportunities for promoting autonomous learning which entails motivating learners to learn, thus, initiating long life learning. This would lead to raising pupils (learners) awareness of the importance and

contributions of what they learned to their lives, which would motivate them to help in the SMART brain bank process; being convinced of how much this bank would increase their learning abilities.

Another reason stems from how the human brain works. Caine et al. (2009) provided research evidence supporting that the search for meaning is innate, and that learning is processed through meaningful processes. Accordingly, activating learning, assessments through relevant teaching strategies realizing the targeted object of an active learner is the main concern of this study. This target also explains the reason behind developing a SMART bank for language skills. A detailed clarification of developing the SMART bank, its specifications, methods of investments, procedures for skill exchanges and loans will be provided. How the SMART brain bank relates to brain and mind learning principles will be detailed as well.

Learning language skills relates to brain and mind learning principles:

Twelve- brain/mind- learning principles account for learning twelve skills in English. Caine et.al. (2009) suggested 12 brain/mind working principles to be responsible for individualized learning. This is based on the assumption " human beings are living systems "p.4. The brain and mind learning principles describe the "what", the "when", the "how" and the "why" knowledge, skill, and information are perceived. These four issues condition learning processes. They entail the following twelve brain and mind learning principles as stated by Caine et.al.(2009: p.4):

1-Learning is physiological.
2-The brain and mind is social.
3-The search for meaning is innate.
4-The search for meaning occurs through patterning.
5-Emotions are critical to patterning.
6- The brain and mind process parts and wholes simultaneously.
7- Learning involves both focused attention and peripheral perception.
8-Learning always involves conscious and unconscious rocesses.
9-There are at least two approaches to memory: archiving isolated facts and skills, or making sense of experience.
10- Learning is developmental.
11- Complex learning is enhanced by challenge and inhibited by threat associated with helplessness.

12- Each brain is uniquely organized.

In an attempt to relate the above learning principles to the learning of the four pre-assumed language skills; this study considered the process underlying the learning of each particular language skills.

Classifying language skills into two main categories: receptive & productive. The receptive skills are "listening and reading". The productive ones are "speaking and writing" This classification is meant for language study and linguistics. In real life situation language learning process is usually integrative and interactively learned. This idea is supported by Scarcella & Oxford (1992); they consider the learning and teaching of a language to be similar to weaving a beautiful tapestry; "learning a language is very much like weaving a tapestry" p.vii .

This study has attempted an analysis of the four language skills in accordance with the twelve brain/mind working principles responsible for skilled learning.

Elmatarawy twelve receptive and productive language skills

The related twelve English skills, as classified in this study, are stated in three main categories. Each category represents a learning phase of a particular receptive or productive skill.

Elmatarawy skill categories

-The first category of language skills is the literal. This relates to the exact specific meaning of the language chunk as perceived by the learner. Whether the perceived language chunk is written or spoken the skill manifested by the learner could reflect the literal category. Accordingly, the four integrative language skills would be categorized as perceived; i.e., as literal.

-The second category is the inferential. This refers to the way a language chunk is perceived by the learner. Prior knowledge and previous learning experiences relate this inferential category to how the integrated four skills; listening, reading, speaking, and writing are perceived.

-The third category is referred to as the critical. This reflects the interactivity of personal, inter-personal traits of the learner and the way the four language skills are integrated and perceived.

Based on the above, twelve phases are generated. These might be listed as follows.

1- Literal listening

Based on brain/ mind learning compatibility, the brain seeks meaning and relevance on literal bases. Thus, an effective teacher has to manage the classroom setting to facilitate attentive and active listening.

2- Inferential listening

This skill allows for prior knowledge and pattern seeking principles to take place. Emotions are critical at this phase. It is the due turn of the teacher to consider the importance of positive emotions, and plan for activities accordingly.

3- Critical listening

This skill requires providing the brain/mind the adequate time to work with new learning. In addition, a time for reflection is necessary to attain this target.

4- Literal reading

This skill enables the mind to seek meaning and knowledge which supports literal meanings of the written text. Accordingly, these contexts should enable positive emotions and feelings. They have to meet a need in the learner to facilitate his participation and engagement. The teacher should plan and design activities and tasks to meet this end.

5- Inferential reading

Inferential reading requires the mind to recall the previously learned experiences and information. It also entails sorting and classifying retrieved knowledge. Chunking information, pattern seeking, and short/long term memory are the pivots for inferential reading.

6- Critical reading

Critical reading necessitates a relaxing social environment to exist.For the mind to actively transfer new learning and draw conclusions various principles are demanded. These are named as positive social environment that enables short term and long term memory to be facilitated. It also requires the teacher to plan for and construct proper activities to activate this targeted skill.

Relating the compatible brain working principles if well considered in designing the activities, would enable an active learning environment.

7- Literal writing

According to this study, literal writing is assumed to entail conveying the written message through limited simple words and almost no structure. An example could be: "Living alone sometimes I have A feel with my family". This sentence could literally express that feeling of loneliness the learner/writer is trying to convey. It may also entail that the learner/writer is left alone. In Both cases the background knowledge of the learner would account for the literal meaning of the words. In other words, the meaning conveyed will be limited to words used. This would require the mind to use prior knowledge within an adequate time framework appropriate to allow for individualized learning.

8- Inferential writing

It is referred to as the ability to convey the written message indirectly through the limited words and simple structure of a learner. The use of morphology and the rule of overgeneralization would justify for inferential writing. The use of language register, as well as deep and surface structures would allow for this kind of writing. With beginner language learners, the brain working principles might allow for making use of the morphological aspects of English as well as the rule of overgeneralization. An example would be represented in the following sentence: "Ali hit the ball he bought yesterday". The writer would mean either Ali bought the ball yesterday or Ali hit the ball yesterday. This kind of writing could be used with the limited number of words known to the learner. The inferential writing skill would be activated through careful management of time and the structured activities to enable the search for meaning through patterning. For the brain to work better, an inviting, motivating social climate should be ensured.

9- Critical writing

This skill entails conveying the intended message using appropriate words and structures. Positive emotions and pattern seeking are required.

10- Literal speaking

This skill refers to conveying the intended idea in simple broken sentences known to the learner. The spoken words used are also very limited. Consequently, the learner uses the literal meaning of a word he learned through a background reference to his mother tongue. In this case, an example would be in the funny sentence: "open door wrote his book on in-in"; which is though meaningless

to a native speaker of English, yet structurally correct. It might be meaningful to an Egyptian English beginner. This literal use of words to communicate ideas through a speaking medium is justified through the brain/mind working principle of archiving isolated facts and skills. It could also be accounted for by making use of previous learned experiences.

11- Inferential speaking

It is the skill which enables conveying the idea with reference to prior knowledge. The structure of the mother tongue might affect the flow of ideas using limited simple words.

12- Critical speaking

This skill would refer to conveying the idea using appropriate words and structures. For this skill to occur, the mind needs to work in an enjoyable supportive social setting.

Brain and mind language learning compatibility

Accordingly, the above twelve language skills are the source for patterning and archiving elements, facts, knowledge and information stored. Language skills are learned if meaningfully perceived. Contexts form and constitute the meaning. The social and emotional working principles of the brain and mind facilitate active learning. Language skills are physiologically learned. They require a positive social classroom setting allowing for language practices.

They are meaningfully and structurally organized. They are perceived as communicative aspects of life. Language skills are developmental.

They are enhanced by challenge and inhibited by threat associated with helplessness.

They are consciously and unconsciously learnt. They are retrieved in memory as isolated facts or as experiences making sense. That is why learning language skills in a classroom setting needs an effective language teacher who knows and can work according to the learning principles of the brain and mind and language skills.

Activating English learning

Activating learning means developing and implementing planned activities to engage the participant as a PARTNER in the activity.

What does activating English learning mean? It is a planned series of actions or events to invite the participant to process,

apply, interact and share experiences as part of the educational process.

The interactive components support the goal and the educational objectives for the learning activity. When active learning strategies are used; they will picture the participant when he is reading, talking, writing, describing, touching, interacting, listening and reflecting on the information presented.

Active Participation in Learning entails having the participant reading, talking, writing, describing, touching, interacting, listening . It promotes problem solving, critical . and reflective thinking, and manipulation of materials, analysis and synthesis

It focuses on the desired outcome and evaluation of the information for the participant as a result of the learning activity.

Research also indicated that learners are self- directed. They look for the learning activities to enhance their own knowledge, and to meet their needs. Another indication has been made to meet the learners experiences he has .learners learn best when the information presented is contextual and relevant to their needs.

They want to be able to apply new information and skills.

Learning is most effective and enjoyable for the learner.

The **SMART** brain bank has been developed to enable the above characteristics of active learning to arrive at activating language skills.

Benefits of active learning:

Recent research has indicated that when participants are involved in their learning, rather than being passive observers, Scarcella (1992), Nottingham (2013), they are more likely to master the skills practiced, concepts presented, apply what is learned to practice, and retain the information presented. This is supported by brain-based research. Brain-based research indicated that the more the learner is engaged in real language experiences the better the skills are assimilated. Supporting this, the skill-based **SMART** brain bank is intended to be interactively developed.

The following figure presents a snapshot of learners' active participation in the learning task. Learners are enrolled in the Salam experimental language school.

The Effective English teacher enables active learning strategies: The following important time points can guide teachers' selection and use of active learning strategies:

1-the teacher can design his language material to include activities that address : the following

- Pre-learning
- Learning through
- Post-learning and carry over

2- the teacher can set the stage for an active learning event even before the lesson begins. He can introduce ice concepts through breaker activities, puzzles, agendas, flow sheets, pre-tests and surveys.

3-developing an emotional connection with the learner enhances his satisfaction of the learning activity.

A description of the SMART brain bank is entailed in the next pages.

Subjects

Volunteered teachers of English participated in this study were eight experienced teachers of English. Three are teaching at the Nokrashi governmental basic school, two are teaching at the Salam experimental language-schools and three are teaching at the Salam experimental schools.They participated in providing feedback to video recordings, teaching performances and learning practices.

Their pupils' participation helped in the process of developing the SMART brain bank. Their feedback to the written reports

contributed to the writing of the final report. Their teaching experiences ranged above five years. Only three were not planning to get a teaching career. Yet, all of them maintained that they now like what they do. Three were prep stage teachers, two were teaching English in an experimental language school, and the other three were teaching in an experimental school. All five teachers were teaching elementary pupils.

Prior to contacting volunteered participants, internal ministry, governorate and school director approval was sought and granted.

Approaching volunteered participants were cautiously made to ensure construct and content validity of the study. Informal brainstorming setting was planned to investigate and reassure participation willingness.

Following is a description of the teaching profile of every individual teacher.

-Teacher one teaching profile: this teacher shows a great deal of experience in understanding his learners' abilities. He designed classroom activities to meet the interests and needs of most of them. He could manage time and learning quite well. Group work is one of his favorites.

-Teacher two teaching profile: this teacher prefers individual tasks to group tasks. Individual and class activities are among his favorites. Much repetition and oral activities are reflected.

-Teacher three teaching profile: similar to teacher one ,this teacher is highly enthusiastic; she has an effective persuasive tone of voice. The pitch and intonation levels of her speech vary accordingly. Group work presentations and class work singing activities are favored.

-Teacher four teaching profile: this teacher has experienced both teaching and training practices. He has been affiliated to the TILO trainers, through which he starts training colleague teachers. He engages his learners in community competitions.

-Teacher five teaching profile: this teacher tends to initiate brain storming activities which encourages and motivates learning. She is well disciplined and organized in sequencing the selected activities. She reflects a great deal of understanding to her learners. She stands as a good example for a supportive teacher. Teacher six teaching profile: this teacher though expressed a negative attitude towards teaching, yet she started to like the teaching career. The teaching rapport she has reflects the change she made. Risk taking activities are designed to allow for decreasing learning inhibitions.

-Teacher seven teaching profile: this teacher favors productive work to receptive one. She is quite aware of the attention span. She engages her learners in the activities they like and prefer.

-**Teacher eight teaching profile**: this teacher though knows a lot about teaching practices and enrolled in the in-service training

programs, his teaching abilities do not reflect the amount of practices and knowledge received.

The eight teachers participated in developing the SMART bank based on their present knowledge and background experiences. The task was entirely left to the existing teaching situation. This is mainly to know and ensure possibilities for the SMART brain bank to exist.

Instruments

Instruments were designed and adapted to fit for study purposes and target. Thus, instruments were not rigidly structured.

Flexibility was a major criterion for an instrument to ensure spontaneous and honest data collection. A full description of instruments designed is detailed below.

1- **Effective teachers' practice checklist:** This is an informal five items checklist designed to explore and unwrap the real truth and willingness beyond participants joining the teaching career. Items included covered: time-line perception, unique thinking comfort zone perception, creating creative rapport perception, attentive listening perception, and group forming perception. Items also include knowledge and information about the teaching career as well as academic information.

Responding enthusiastically and positively showing a real understanding is a good reflection of willingness. Attempting to ask for more clarification is another positive indication of seriousness as well as willingness.

2-Brain/mind Learning principles reflections: This checklist has been designed for conversational interviews. The purpose is to get information relevant to the amount of information and knowledge a teacher of English knows concerning professional teaching performances. Application of teaching techniques relevant to learners' interest is maintained. Methods of assessing learners' gains are clearly stated in the items of this checklist. This checklist has been used for focus discussion groups as well as self-reflection and esteem processes. It also probes into teachers' awareness of the effect of the brain/mind working principles on activating the learning process.

3-Stallings –Snapshot observation manual: An adapted form of this manual has been used in combination with the recordings to provide a holistic measure of pupils' engagements in tasks. Data

obtained were coded according to Stallings criteria. According to Stallings obtained manual, data were categorized into five sections, namely; active instruction, passive instruction, classroom management, teacher off-task, student off-task. The present study adapted using the manual to fulfill its objectives Possibilities for active learning practices were enabled. Suggesting developing the SMART bank became a reality. Importance of portfolio assessment practices has been declared as an important factor in active learning practices.

4-Classrooms' video-recording: This instrument was used mainly to get into the depth of English teaching and learning reality. In addition, this recording enabled data decoding and analysis. It also raised teachers' awareness of their classroom teaching performances. In addition, Stallings- snapshot observation manual was manipulated to get a holistic overall measure of the time managed in active learning engagement. The recording also has enabled a discussion on how to develop the SMART bank. This discussion provided teachers with the economic educational strategic concepts of the word "bank "to be integrated in activating skill learning. Thus, explaining the vision of the SMART bank and its mission was provided. Explaining the concepts of skill bank account was maintained. Discussing possible ways of language skills investments if a skill bank account is opened was extended. And, discussing ways for having a skill loan, a skill deposit, a skill exchange and a skill deposit was clarified.

Data collected enabled concurrent discussions of how to use portfolios for assessing and activating learning processes. Other issues were brought alive into the teaching learning situation; namely; the use of technology issue , developing process learning circles, managing class time effectively and enable pupils active participation.

Brain and mind learning principles compatibility with language learning process have been reflected on through students and teachers debating. Following are the issues raised for debating. They purposed at enormous data collections.

Learning a language skill is a brain / mind learning process.Skill learning is stored as a brain/mind learning process and retrieved when required.

It is possible to activate skill learning through developing the SMART bank.

A language bank is a place for a language to be saved The SMART brain bank refers to brain cells in which information is stored.

Activating a language skill is possible. These statements were structured for gathering data through the brainstorming process. The next chapter provides how classifying and interpreting data were used to enable skill investment, and activate learning, teaching as well as assessments.

Data analysis

The qualitative research technique is adopted in this study to facilitate data classification and analysis. The method used for developing the **SMART** brain bank is enabled through classifying the data collected. Developing learning process circles in an English classroom setting is provided using the qualitative data obtained. The effect of learning time on pupils' participation has been supported. Facilitating and activating portfolios is declared as an active learning possibility. Data and responses obtained were assessed immediately by accurately transcribing and storing them in a word processing document to be analyzed qualitatively for conceptual and recurring common themes, with the ultimate goal of developing and attaining a "grounded theory" (Patton, 2003).

The researcher examined narratives and field notes looking for categorizing information. Each category was, then, coded on the document. They were read aloud for review purposes. After several read-through phases, the codes developed into a name that would describe an event or an issue. Each code was then transferred into a separate document in which consistent categories could be again compared. These processes were done several times. Codes were re-organized and re-named after further comparisons with other events. Once categories were established, the core themes arrived at became the central focus of the study.

The core themes were those repeated ones and focused on during conversations and video recorded sessions.

Data classifications

Data obtained and coded were classified into categories providing answers to the questions of the study. They were also classified for hypotheses validity purpose. Following are the initial

categorization of data: Teacher tailored -active, teacher adapted-active, teacher perceived active, teacher performed-active.

-**Teacher tailored-active strategy:** This category classifies teachers who tailored their performances to enable pupils' real and authentic practices of language skills. They use all the available resources to engage pupils. Interactive integrated skill participation is allowed through storytelling, as well as other real life authentic learning. Those teachers reflected a good use of class time.

-Teacher adaptive-active strategy: This category refers to teachers who reflect a real enthusiasm for developing the SMART bank. An application of the Stallings –snapshot manual indicated that less than 50% of class time was used in passive instruction. This is just an estimate value. The experienced professional effective teachers were perfect time managers; they spent less than 15% in organizing their class learning circles. Their participation was a real contribution to this study. One of the teachers is a TILO trainer; participating in the use of "Technology for Improved Learning Outcomes".

-Teacher perceived – active strategy: This classifies teachers who perceive teaching as a jug filling task. Their teaching ideas do not match their teaching performances. They claim their support for engaging pupils in learning activities. Repetitions, drills, and route learning are automated.

-Teacher performed – active strategy: This classifies teachers who tend to reflect on their teaching practices. They support their pupils and facilitate active learning responsibilities.

The SMART Brain Bank

The following presents the outcomes of the qualitative study as reported by the participated teachers. It also includes a reference for teachers to use in their teaching performances when they need it. This reference covers the participatory final report outcomes as represented in th**e SMART** brain bank developed by teachers of English and their pupils. In addition a glossary of teaching and learning strategies is tailored for teachers of English to enable active learning and active assessments. This glossary is adapted from various interactive web sites.

As reported by teachers of English an agreement has been made to developing a bank of skills purposing at activating the learning, the ways of assessing learning and teaching English skills. This

bank is developed to relate to brain and mind compatibility learning principles and language learning skills process.

Purpose and vision of the bank

This bank is developed to meet and address the pre-set criteria suggested by teachers of English participated in the study. These criteria were set in accordance with the interactive functional objectives of language learning processes and the indicatives of the four categories referred to previously.

Mission of the bank

The mission of this bank has been stated as follows:

1-enable active learning,

2-enable active assessment,

3-alert teachers to the effectiveness of performances in classroom settings, and

4-provide teachers with possible techniques to enable managing abilities, engaging with others and spreading their influence.

Naming the bank

The bank has been named after its characteristics and its objectives. Being SMART entails the quality of intelligence and ability. It also entails the quality controlled criteria of stating "an objective". Accordingly, an objective should be; Specific, Measurable, Attainable, Reliable, and Teachable. It also efers to process of learning. Accordingly, the process of learning is Selected, Managed, Assessed, Reviewed, and Tested.

Components of the SMART brain bank

The SMART bank has three levels and four components. The four components represent the genuine qualities of authentic financial banks.

These four components are: opening and exchanging accounts, loans and deposits, profits and interests, stakeholders and shares.The three levels of the SMART bank are: skills, process, and products.

Developing the SMART bank:

Following are procedures that made the SMART bank a reality.

1- Brain storming the underlying rationale for developing the bank, its components, its share holders, and its savings.

2- Discussing various methods for opening the bank account, methods of saving skills and investing skills.

3- Find who saves skills and who invests skills.

4- Set the criteria for the quality of skills to be saved and invested.

5- Define and identify conditions for skill loans and exchanges.

6- Negotiate and discuss these conditions to reach to a final decision.

7- Find a name and a place for the bank.

8- Discuss and decide the trial phase for developing the bank.

9- Use the video recordings to explore and navigate the techniques applied for developing the bank.

10- Use Stallings-snapshot manual to learn more about the time of learning investments.

11- Have pupils reflect on their participations and learning outcomes. Portfolios, journals, and diaries could be used as reflecting measurement tools.

12- Have teachers' feedback.

13- Relate the developmental process used for developing the bank to the brain/mind developmental qualities.

14- Attempt an answer to the previously raised question what is developing a bank.

15- Submit your answer in the written final report.

The Final report

Initial attempts and feedback indicated how active learning is supported through brain/ mind working principals. Feedbacks and

reflections enabled pupils and teachers to participate in the written final report in which a comment for furthering the **SMART** brain bank has been made.

The coding analysis for examining the hypotheses indicated that positive correlation between learning outcomes and teaching practices is supported.

- Recommendations

Teachers who participated in the writings of the final report arrivedat the following recommendations:

1- Having a team of teachers who could share their teaching and learning practices with each other.

2-Establish the **SMART** brain bank through engaging learners in their learning activities.

3- Enable autonomous learning through information sharing.

4-Classroom setting should allow for skill learning practices.

5-Class size would be made to allow for all seating types.

6-Two of the teachers suggested co-teaching as a form of exchanging teaching and learning experiences.

7-Because learning awareness is raised when exchanging language skills, the **SMART** brain bank is recommended for teaching/learning investment practices.

Bibliography

1- Apple, M. (2004). Empowering the de-motivated learner: Writing portfolios as an alternate means of assessment for false beginners to low intermediate learners of English as a second or foreign language. *The Journal of the College of Foreign Languages,* Himeji Dokkyo University, 17, 85-100.

2- Bownwell,C.& Eison, J.(2009). *Active Learning: Creating Excitement in the Classroom.* From Active learning and teaching English website.http//:www.ntlf.com.

3- Breen, M., & Mann, S. (1997). Shooting arrows at the sun: Perspectives on a pedagogy for autonomy. In Benson, P. & Voller,P. (Eds.), *Autonomy and independence in language learning* (pp.132-149). Longman: New York.Page **68** of **83**

4- Caine,R.N., Caine,G., McClintic,&Klimek,K.,J. (2009). *12 Brain/ Mind Learning Principles in Action.* Corwin Press.

5- Caine, G., Caine R., (2001). The Brain, Education and the Competitive Edge. Scarecrow Press

6- Caine, G., Caine R., and Crowell, S. (Revised, 1999). *Mindshifts*. Zephyr Press.

7-Caine, R. and Caine, G. (1997). *Unleashing the Power of Perceptual Change: The Promise of Brain Based Teaching*. ASCD

8-Caine, R. and Caine, G. (1997). *Education on the Edge of Possibility*. ASCD.

9-Caine, R., Caine, G. (Revised, 1994). *Making Connections: Teaching and the Human Brain.* Addison-Wesley Longman.
10-Carin, A., Bass, J., & Contant, T. (2005). *Methods for teaching science as inquiry*. Upper Saddle River, NJ: Pearson

11-Crowell, S., Caine, R. and Caine, G. (1998). *The ReEnchantment of Learning*. Zephyr Press

12-Efron,S.E.&Ravid,R. (2013). *Action Research In Education : a practical guide.* The Guilford Press. New York. London.

13- Hamp-Lyons, L., & Condon, W. (2000). *Assessing the portfolio*: *Principles for practice, theory, and research*. Cresskill : Hampton Press.

14-Hopwood,T. &Rushton,L. (1982).*World At Work: Banking.* Longman.

15 - Hyland, K. (2002). *Teaching and researching writing.*Pearson Education: London.

16-Jarrett, D. (1997). *Inquiry strategies for science and mathematics learning*. Portland, Oregon: Northwest Regional Educational Laboratory.

17- Little, D. (2004). *Developing learner autonomy with the European Language Portfolio.* Plenary speech given at the Autonomy and Language Learning: Maintaining Control Conference, Hong Kong and Hangzhou, June.

18- Mineishi, M. (2002). *Daigaku eigo kyoiku ni okeru kyoujushudan toshite no potofolio ni kansuru kenkyu* [A study on student developed portfolios as an instructional tool in Japanese university EFL classrooms]. Hiroshima: Kisuisha.

19- Nelson, K. J. (2009).*Teaching in the Digital Age*. CorwinPress.

20- Norton, Lins (2009).Action Research in Teaching & Learning. Routledge.

21- Nottingham, James (2013). *Encouraging learning: How you can help children learn.* Rout ledge . London And New York.

22- O'Malley, J. M., & Valdez Pierce, L. (1996). *Authentic assessment for English language learners.* Reading, MA: Addison-Wesley.

23- Patton, M.Q. (2003). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

24-Scarcella,R.& Oxford,R.(1992). The tapestry of Language Learning :The Individual in The Communicative Classroom. Heinle & Heinle, Boston: USA

25- Shih, M. (1999). More than practicing language: Communicative reading and writing for Asian settings. *TESOL Journal.* 8 (4). 20-25.

26- Shimo, E. (2003). Learners' perceptions of portfolio assessment and autonomous learning. In A. Barfield & M. Nix (Eds.),*Teacher and learner autonomy in Japan, Vol. 1: AutonomyYou Ask!* (pp. 175-186). Tokyo: Japan Association for LanguageTeaching Learner Development Special Interest Group.

27- Stefanakis, E. H. (2002). Multiple intelligences and portfolios:A window into the learner's mind. Portsmouth: Heinemann.

28-Spring, J.. (2009). *Globalization of Education, An Introduction*.

Rout ledge, New York and London.

29- Turbull, J. (2007). *9 habits of Highly Effective Teachers*. Continuum Press, New York.

❋❋❋❋❋❋❋